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Significance of tumor necrosis factor a-308 (G/A) gene polymorphism in the development of prostate cancer

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Prostate cancer (PCa) is the most common noncutaneous cancer among men, accounting for 10% of male cancer-related deaths worldwide. The etiology of PCa is largely unknown, although multiple environmental and lifestyle factors such as ultraviolet irradiation, smoking, and diet might increase the risk of the disease. Risk of disease varies most prominently with age, ethnicity, family history, and diet. The multifunctional cytokine tumor necrosis factor alpha (TNF-a) has an important role in the pathogenesis of inflammatory, autoimmune and malignant diseases. In this case, control study 150 prostate cancer patients and 150 ages matched benign prostate hyperplasia (BPH) and equal numbers of healthy control groups were involved. The aim of this study was to analyze the effect of *TNF-a-308* (G/A) polymorphism on risk of prostate cancer on north Indian prostate cancer patients. The polymerase chain reaction (PCR) technique was utilized to genotype *TNF-a-308* (G/A) polymorphism. The present study showed statistically significant increased risk of prostate cancer among individuals that carried the A allele of *TNFa-308* gene (OR=1.81, 95% CI 1.00–3.481, p = 0.03).

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